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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,177	10/28/2003	Richard N. Anderson	HUN.233	4293

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EXAMINER
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DANIELS, MATTHEW J

ART UNIT	PAPER NUMBER
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1732

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/24/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/695,177

Applicant(s)

ANDERSON, RICHARD N.

Examiner

Matthew J. Daniels

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The objection to the drawings is withdrawn.

### *Claim Objections*

2. The objections set forth previously are withdrawn.

### *Claim Rejections - 35 USC § 112*

3. The rejections set forth previously under this section are withdrawn.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 9, 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Curtis (USPN 4615163) in view of Pettersson (USPN 4095913). **As to Claim 1**, Curtis teaches the well known aspects for making a composite profile, namely providing a core piece and insert, each having the same profile from end to end, wherein the core pieces defines a channel sized to receive the insert piece, the channel extending to both ends, inserting the insert piece into the

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channel with the top of the insert initially above the top surface of the core, and pressing the insert into the channel such that the surfaces of the insert and core are aligned (Figs. 3 and 4 and 3:40-4:40).

Curtis does not explicitly teach the crush ribs, however, in one interpretation, area 14 of Fig. 5 could be interpreted to be a crush rib, which would obviously deform some amount when inserting the insert. However, in the alternative, Pettersson teaches crush ribs (Fig. 6 and 3:12-36). In particular, Pettersson teaches fiberboard and wood (4:10-15). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Pettersson into that of Curtis (1) in order to allow expansion and contraction of the composite board, (2) because Curtis clearly suggests physical modifications of the groove to facilitate adhesion (4:13-14) by keying the two pieces together or increasing surface area (3:59-61), which Pettersson provides, and (3) because Curtis clearly suggests a particular glue thickness (3:65-68), which Pettersson's ribs would provide. **As to Claim 9**, Curtis' article has the at least one leg (area on either side of insert in Fig. 2), the insert piece defines on side surface (Fig. 3), and Curtis clearly teaches an adhesive being applied to one or both of the leg and insert (3:55-65). **As to Claim 10**, Curtis teaches the well known aspects for making a composite profile, namely providing a core piece and insert, each having top and bottom surfaces, wherein the core pieces defines a channel sized to receive the insert piece (Figs. 2-4), pressing the insert piece into the channel to align the top surfaces (implicit in that the insert is placed), wherein the first channel defines at least one leg (areas beside insert 12 in Figs. 2-4) and the insert defines at least one side surface (Fig. 4), applying adhesive to at least one of the leg and side surface prior to pressing the pieces together (implicit), wherein the bottom surface of the core piece defines at

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least one shallow pocket to act as a repository for any extra adhesive applied (Figs. 2-8). In each Figure, Curtis' insert "defines" the repository, but particularly in Figs. 5-8 the insert is interpreted as defining the repository in substantially the same way shown in this application.

Curtis is silent to the crush ribs, but Pettersson teaches this aspect of the invention (Fig. 6 and 3:12-36). In particular, Pettersson teaches fiberboard and wood (4:10-15). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Pettersson into that of Curtis in order to allow expansion and contraction of the composite board. Additionally, the combination can be interpreted to "define" the repository in that some glue would be present between the crush ribs of Pettersson (Fig. 6).

5. **Claims 2-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Curtis (USPN 4615163) in view of Pettersson (USPN 4095913) and Zanini (USPN 2926729). Curtis teaches the well known aspects for making a composite profile, namely providing a core piece and insert, each having the same profile from end to end, wherein the core pieces defines a channel sized to receive the insert piece, the channel extending to both ends, inserting the insert piece into the channel with the top of the insert initially above the top surface of the core, and pressing the insert into the channel such that the surfaces of the insert and core are aligned (Figs. 3 and 4 and 3:40-4:40).

Curtis does not explicitly teach the crush ribs or passing the core and insert assembly through an extrusion die to apply a coating. However, in one interpretation, area 14 of Fig. 5 could be interpreted to be a crush rib, which would obviously deform some amount when inserting the insert.

However, in the alternative that Curtis cannot be relied upon for crush ribs, Pettersson teaches the crush ribs (Fig. 6 and 3:12-36), and in particular teaches fiberboard and wood (4:10-15).

Zanini teaches passing a composite comprised of interlocking strips (2:45) through an extrusion die to apply a coating (Fig. 6).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Pettersson and Zanini into that of Curtis (1) in order to allow expansion and contraction of the composite board (Pettersson), and (2) because Curtis clearly suggests physical modifications of the groove to facilitate adhesion (4:13-14) by keying the two pieces together or increasing surface area (3:59-61), which Pettersson provides, (3) because Curtis clearly suggests a particular glue thickness (3:65-68), which Pettersson's ribs would provide, and (4) in order to mask the interface providing the desirable aesthetic aspect of a singular and unitary piece (Zanini). **As to Claim 3**, Zanini's material is a thermoplastic (2:10-15). **As to Claims 4 and 5**, Curtis clearly teaches that the shape of the insert "may be selectively varied." (4:2), and further teaches a configuration (Fig. 2) that reads on these claims. Zanini additionally teaches that it is desirable for the coating material to be provided "wedging within said slots" (1:50) and that this has the effect of "bonding the strips together." (1:46-47). Thus, Curtis provides clear teaching to the artisan to vary the particular shape of the insert and Zanini teaches that it is desirable to penetrate the gap to bond the strips together. **As to Claims 6-8**, Curtis clearly teaches the ordinary artisan to selectively vary the shape of the insert (4:2) and the groove to complement the insert (4:5-10), and further suggests that the ordinary artisan provide physical modifications of the groove to facilitate adhesion between the rod and groove surface

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(4:13-15) by providing notches or other elements that can effect greater adhesion between the beam and rod by keying the cured resin to the wood (core) and reducing the likelihood of shifting when the beam is placed under load. The particular width of gap, recessed shoulder, and widening would have been prima facie obvious in view of Curtis' teaching to vary the profile of both the insert and the groove as provided above.

6. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Curtis (USPN 4615163) in view of Pettersson (USPN 4095913) and Zanini (USPN 2926729), and further in view of Parasin (USPN 5165816) and Olofsson (WO 99/40273). Curtis, Pettersson, and Zanini teach the subject matter of Claims 2 and 4 above under 35 USC 103(a). **As to Claim 6**, in the event that Curtis' teachings are held not to be sufficient to render the claimed elements prima facie obvious, Parasin and Olofsson teach the claimed insert *configurations*, namely a channel wider at the top edge than the bottom (Parasin, Fig. 2, Olofsson Fig. 4, item 4). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Olofsson and Parasin into that of Curtis in order to provide recesses for adhesive and spaces to accommodate expansion and contraction, both aspects being desirable in beams. **As to Claim 8**, in the event that Curtis' teachings are held not to be sufficient to render the claimed elements prima facie obvious, Olofsson and Parasin teach the claimed insert *configurations*, namely a leg that widens adjacent the top surface of the core piece to define a gap (Olofsson, Figs. 3 and 4, item 4 and Parasin, Fig. 2, items 25, 44, 38). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate

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the methods of Olofsson and Parasin into that of Curtis in order to provide recesses for adhesive and spaces to accommodate expansion and contraction, both aspects being desirable in beams.

7. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Curtis (USPN 4615163) in view of Pettersson (USPN 4095913) and Zanini (USPN 2926729), and further in view of Olofsson (WO 99/40273) and Del Rincon (USPN 5694730). Curtis, Pettersson, and Zanini teach the subject matter of Claim 2 above under 35 USC 103(a). In the event that Curtis' teachings are held not to be sufficient to render the claimed elements *prima facie* obvious, Olofsson and Del Rincon teach the claimed insert *configurations*, namely a recessed shoulder forming a gap between the core and insert (Olofsson, Fig. 4, item 4, portion at left is the core, and Del Rincon, grooves in insert of Fig. 3 are recessed shoulders). It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Olofsson and Del Rincon into that of Curtis in order to provide a recess for adhesive and to maximize the board retention of the insert (Del Rincon, 2:53).

8. **Claims 11-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Curtis (USPN 4615163) in view of Pettersson (USPN 4095913) and Kalnin (USPN 5497595). As to Claim 11, Curtis teaches the well known aspects for making a composite profile, namely providing a core piece and insert(Figs. 2-4), each having top and bottom surfaces, a first and second ends (Figs. 1-4), wherein the core piece defines a channel sized to receive the insert piece (Figs. 2-4), pressing the insert piece into the channel (implicit) until the top surfaces of the insert and core are aligned (Fig. 3), wherein the channel defines at least one "leg" (areas beside the



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insert in Figs. 2-4), and the insert piece defines at least one side surface (Fig. 4), and applying adhesive to at least one of the leg and side surface (implicit).

Curtis does not explicitly teach the crush ribs or “the step of applying adhesive along an opposite second surface of said core piece so as to counter uneven expansion due to moisture absorption by said core piece from said adhesive.” However, in one interpretation, area 14 of Fig. 5 could be interpreted to be a crush rib, which would obviously deform some amount when inserting the insert. The Examiner asserts that the countering of uneven expansion is an intended use or effect, and that this limitation is met by oppositely located cores, which would inherently or implicitly provide this effect.

However, in the alternative that Curtis cannot be relied upon for crush ribs, Pettersson teaches the crush ribs (Fig. 6 and 3:12-36), and in particular, Pettersson teaches fiberboard and wood (4:10-15).

Kalinin teaches that it is conventional to provide inserts on both the top and bottom surfaces of a beam (Figs. 1 and 3).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Pettersson and Kalinin into that of Curtis (1) in order to allow expansion and contraction of the composite board (Pettersson), and (2) because Curtis clearly suggests physical modifications of the groove to facilitate adhesion (4:13-14) by keying the two pieces together or increasing surface area (3:59-61), which Pettersson provides, (3) because Curtis clearly suggests a particular glue thickness (3:65-68), which Pettersson’s ribs would provide, and (4) to improve the stiffness and strength of the beam (Kalinin). **As to Claims 12**, a second channel, a second surface, and a second insert are conventional in the art, as

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taught by Kalinin. **As to Claim 13**, Curtis teaches that the core piece defines at least one shallow pocket to act as a repository for any extra adhesive applied (Figs. 2-8). In each Figure, Curtis' insert "defines" the repository, but particularly in Figs. 5-8 the insert is interpreted as defining the repository in substantially the same way shown in this application.

### ***Response to Arguments***

9. Applicant's arguments filed 4 August 2006 have been fully considered but they are not persuasive. The arguments appear to be on the following grounds:

- a) The motivation to combine Curtis and Pettersson, namely in order to allow expansion and contraction of the composite board, is asserted to be invalid because the members of Curtis are permanently fixed together by an adhesive and cannot shift relative to each other. Even if a rib were added to Curtis, it could not function to relieve stress, because the adhesive prevents shifting.
- b) While Zanini does teach the use of an extrusion die to apply a coating, the cited references would not make it obvious to follow the claimed assembly method including pressing an insert against crush ribs. Zanini requires the members to be assembled by sliding them lengthwise prior to coating.
- c) Claim 4 provides a wider gap, but in Curtis the adhesive would fill the gap, not the coating of Zanini.
- d) Curtis does teach a shallow pocket to act as a repository for adhesive. However, it would not be obvious to provide the crush ribs for the reasons cited above.

10. These arguments are not persuasive for the following reasons:

a) Applicant's remarks in this regard have been carefully considered. However, note that in one interpretation, Curtis' channel can be interpreted to have crush ribs (item 14 in Fig. 5) when the relative sizes of regions 14 and 30 in Fig. 5 are not given weight. However, alternatively, Curtis teaches that moisture may have some effect on the performance of the composite board (4:65-66, Curtis) which creates expansion and forces (Pettersson, 3:17-36) which would force the insert and board together, particularly when used in construction applications where the board would be restrained by other building components. Note that Pettersson also desires a "rigid" (3:18) connection be achieved, which is substantially that which is sought in Curtis.

Additionally, the Examiner asserts that Curtis clearly desires the keying affect and an increase in the bonding surface area, providing additional motivation for the combination. This keying effect is accomplished both through abrasion of the insert (3:60) and by physical modification of the groove (4:13-15). Pettersson provides a physical modification of the groove, which would also provide a keying effect substantially similar to that desired by Curtis, and thus the combination appears obvious. Additionally, the crush ribs of Pettersson would help provide the particular adhesive resin thickness also sought by Curtis (3:64-68). Thus, the original motivation still appears to be valid and additionally other reasons for making the combination would have been available to the ordinary artisan at the time of the invention.

b) The Examiner has reconsidered the reference to Zanini, but does not appear to require the sliding of the separate portions as asserted in Applicant's remarks. While Zanini clearly desires a tight fit between the parts (1:25-63), it is asserted that the ordinary artisan having knowledge of

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both the methods of Curtis and Zanini would have found it obvious to make the combination in order to improve the appearance of a composite part.

c) The Examiner asserts that polymerization or setting of the conventional adhesives of Curtis (disclosed at 3:57-59) results in some degree of shrinkage, which would then be subsequently filled by the method of Zanini. Additionally, Zanini suggests that the coating be used to bond the pieces together, and thus appears to suggest that a slightly deficient amount of adhesive be used in order to provide the desired surface coating and bonding effect.

d) The Examiner asserts that the crush rib combination of Curtis and Pettersson is still obvious for the reasons set forth above.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Daniels whose telephone number is (571) 272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJD 1/22/07



  
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1/22/07